



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/574,540

02/02/2007

James C. LeBlanc SR.

PNL21292

7020

77407

7590

08/12/2010

Novak Druce & Quigg LLP
300 New Jersey Ave, NW
Fifth Floor
Washington, DC 20001

EXAMINER

AMORES, KAREN J

ART UNIT

PAPER NUMBER

3616

MAIL DATE

DELIVERY MODE

08/12/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/574,540	Applicant(s) LEBLANC ET AL.	
	Examiner KAREN JANE J. AMORES	Art Unit 3616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 10-16, 19, 21, 24, 26, 35, 36, 46-48 and 58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-16, 19, 21, 24, 26, 35, 36, 46-48 and 58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Acknowledgements

1. Acknowledgment is made of Applicant's amendment to the claims filed on 15 July 2010.

Claim Rejections - 35 USC § 102

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1 – 4, 11 – 16, 19, and 58, as best understood, are rejected under 35 U.S.C. 102(e) as being anticipated by Davis et al. U.S. 6,868,932 (“Davis”). Davis discloses a power plant and driveline arrangement for a vehicle having at least two wheel units and a body supported on said wheel units (column 1, line 35) comprising:
 4. a longitudinally aligned engine (fig. 22) supported on said body;
 5. a transmission (126) supported on said body disposed directly on the underside of said engine;
 6. a first means (124) for transferring drive directly downwardly from an output shaft of said engine to an input shaft of said transmission;
 7. a second means (130) for transferring drive from an output shaft of said transmission to forwardly and rearwardly projecting output shafts;
 8. a first wheel carrier (14) supported on said body forwardly of said second drive transferring means, having an input shaft (140) drivingly coupled to said forwardly projecting output shaft of said second drive transferring means, and

Art Unit: 3616

9. a pair of laterally projecting half shafts (fig. 3) operatively connected to the wheels of a first wheel unit (14); and

10. a second wheel carrier (18) supported on said body rearwardly of said second drive transferring means, having an input shaft (128) drivingly coupled to said rearwardly projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (fig. 5) operatively connected to the wheels of a second wheel unit (18).

11. In reference to claims 2 – 4, 11 – 16, 19, and 58. Davis further discloses a third means (194) for transferring drive operatively interconnecting said transmission output shaft and said second means for transferring drive, selectively operable to transmit a first drive (188), a second drive (186) or no drive; including a pair of (138 and 140) longitudinally disposed drive shafts, one operatively interconnecting an output shaft of said second drive transferring means (140) and said input shaft of said first carrier, and the other one operatively interconnecting an output shaft of said second drive transferring means (138) and said input shaft of said second carrier; including a hydraulic system (272) for operating selected systems on said vehicle, having a motor (122) drivingly connected to said first drive transferring means; wherein said second drive transferring means is operable selectively to provide differential drive (102) between said first and second carrier and to lock to evenly provide drive to said first and second carriers; wherein said second drive transferring means is operable to provide differential drive between said first and second carriers; wherein said second drive transferring means is operable to provide inter-axle differential drive; wherein said couplings of said shafts comprise gear couplings; wherein said couplings of said drive shafts comprise gear couplings; a selectively operable brake (64) operatively connected to said second drive transferring means; wherein each of said carriers is

Art Unit: 3616

provided with an inter-wheel differential (280); and wherein said engine and transmission in stacked relation are disposed in a body (10) of monocoque construction (framing).

12. Claims 24, 26, 35, 36, and 46, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Wohlfarth, U.S. 4,823,897 ("Wohlfarth"). Wohlfarth discloses a power plant (fig. 4) and driveline arrangement for a vehicle (fig. 4) having at least two wheel units and a body (fig. 4) supported on said wheel units, comprising:

13. a longitudinally aligned engine (24) supported on said body;

14. a transmission (30) supported on said body, disposed directly on the underside of said engine;

15. a first means (26) for transferring drive downwardly from an output shaft of said engine (24) to an input shaft of said transmission (32);

16. a second means (48) for transferring drive from an output shaft of said transmission (32) to forwardly and rearward projecting output shafts;

17. a first carrier (10) supported on said body forwardly of said second drive transferring means, having an input shaft (44 or 54) drivingly connected to said forwardly projecting shaft of said second drive transferring means and a pair of laterally projecting half shafts (14 or 16) operatively connected to a set of wheels of a wheel unit (56);

18. a second carrier (18 or 12) supported on said body rearward of said second drive transferring means, having an input shaft (56) drivingly coupled to said rearward projecting output shaft of said second drive transferring means;

Art Unit: 3616

19. and a pair of laterally projecting half shafts (18) operatively connected to a set of wheels of a wheel unit (18 of 12); and

20. a third carrier (20 of 12) supported on said body rearward of said second carrier, having an input shaft (58) drivingly coupled to an output shaft (32) of said second carrier, and pair of laterally projecting half shaft operatively connected to a set of wheels of a wheel unit (18 of 12).

21. In reference to claim 26, Wohlfarth further discloses a set of longitudinally disposed drive shafts (44 and 45 or 39, 54, 56, and 58), one operatively interconnecting an output shaft of said second drive transferring means (56) and said input shaft of said first carrier one (26), operatively interconnecting an output shaft of said second drive transferring means (56) and said input shaft of said second carrier and one operatively interconnecting an output shaft of said second carrier (56) and an input shaft of said third carrier (32).

22. In reference to claim 35, Wohlfarth discloses a power plant (fig. 4) and driveline arrangement for a vehicle (fig. 4) having at least two wheel units and a body (fig. 4) supported on said wheel units, comprising:

23. a longitudinally aligned engine (24) supported on said body;

24. a transmission (30) supported on said body, disposed directly on the underside of said engine;

25. a first means (26) for transferring drive downwardly from an output shaft of said engine (39, 41, or 47) to an input shaft of said transmission (32);

26. a second means (48) for transferring drive from an output shaft of said transmission (32) to forwardly and rearward projecting output shafts;

Art Unit: 3616

27. a first carrier (second 10) supported on said body forwardly of said second drive transferring means, having an input shaft (45 or 54) drivingly connected to said forwardly projecting shaft of said second drive transferring means mid a pair of laterally projecting half shafts (16) operatively connected to the wheels of a wheel unit (56);

28. a second carrier (first 12) supported on said body rearward of said second drive transferring means, having an input shaft (32) drivingly coupled to said rearward projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (18) operatively connected to wheels of a wheel unit (56);

29. a third carrier (last 12) supported on said body rearward of said second carrier, having an input shaft (32) drivingly coupled to an output shaft of said second carrier (58) and a pair of laterally projecting half shafts (20) operatively connected to wheels of a wheel unit (rear12); and

30. a fourth carrier (forward 10) supported on said body forwardly of said first carrier, having an input shaft (44) drivingly coupled to an output shaft of said first carrier (45), and a pair of laterally projecting half shafts (14) operatively connected to wheels of a wheel unit (56).

31. In reference to claim 36, Wohlfarth further discloses a third means (28) for transferring drive operatively interconnecting said transmission output shaft and said second means for transferring drive, selectively operable to transmit drive at a first speed, transmit drive at a second speed and transmit no drive in a neutral position (change-speed).

32. In reference to claim 46, Wohlfarth discloses a power plant (fig. 4) and driveline arrangement for a vehicle (fig. 4) having at least two wheel units and a body (fig. 4) supported on said wheel units comprising:

33. a longitudinally aligned engine (24) supported on said body;

Art Unit: 3616

34. a transmission (30) supported on said body, disposed directly on the underside of said engine;

35. a first means (26) for transferring drive downwardly from an output shaft of said engine (24) to an input shaft of said transmission (32); second means for transferring drive from an output shaft of said transmission (48) to forwardly and rearward projecting output shafts;

36. a first carrier (frontward 10) supported on said body forwardly of said second drive transferring means, having an input shaft (44) drivingly connected to said forwardly projecting shaft of said second drive transferring means and a pair of laterally projecting half shafts operatively connected to the wheel of a wheel unit (56);

37. a second carrier (rear 10) supported on said body rearward of said second drive transmitting means, having an input shaft (45 or 54) drivingly coupled to rearward projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (16) operatively connected to wheels of said wheel unit;

38. a third carrier (first of 12) supported on said body rearward of said second carrier, having an input shaft (56) drivingly coupled to an output shaft of said second carrier (48) and a pair of laterally projecting half shafts (18) operatively connected to wheels of a wheel unit (56); and

39. a fourth carrier (last of 12) supported on said body rearward of said third carrier, having an input shaft (32) drivingly coupled to an output shaft of said third carrier (58) and a pair of laterally projecting half shafts (20) operatively connected to wheels of a wheel unit (56).

Claim Rejections - 35 USC § 103

40. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

41. Claims 5 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Evans et al. U.S. 2003/0186768 ("Evans"). Davis does not directly disclose the details of the engine used. Evans teaches a diesel engine (6). Evans further teaches a turbine engine (244). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to modify Davis such that it comprised the engine in view of the teachings of Evans so as to provide an internal combustion power plant that is powerful enough to drive large or work vehicles that uses multiple driven axles [0045], such as Davis in fig. 7.

42. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Gradu, U.S. 2003/0144109 ("Gradu"). Davis does not directly disclose the transferring means operative to proportion transmitted torque. Gradu teaches a drive transferring means (8) is operative to proportion transmitted torque, 30% to a first carrier and 70% to a second carrier (fig. 5). It would have obvious for a person having ordinary skill in the art at the time the invention was made to modify Davis such that it comprised the drive transferring means operative to proportion transmitted torque in view of the teachings of Gradu so as to selectively apportion torque to front driving wheels and rear driving wheels that can be varied and controlled as needed.

Art Unit: 3616

43. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Davis in view of Ima, U.S. 6,729,992 (“Ima”). Davis does not directly disclose the details of its brakes. Ima teaches a pair of disc brake assemblies (fig. 6) mounted on each of said carriers, and wherein each of said assemblies is operatively connected to a half shaft (fig. 8). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to modify Davis such that it comprised the pair of disc brake assemblies in view of the teachings of Ima so as to provide braking for all axles which are driven, giving better control for the driver.

44. Claims 47 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wohlfarth in view of Clark, U.S. 3,471,166 (“Clark”). Wohlfarth discloses a power plant (fig. 4) and driveline arrangement for a vehicle (fig. 4) having at least two wheel units and a body (fig. 4) supported on said wheel units comprising:

45. a longitudinally aligned engine (24) supported on said body;

46. a transmission (30) supported on said body, disposed directly on the underside of said engine;

47. a first means (26) for transferring drive downwardly from an output shaft of said engine (24) to an input shaft of said transmission (32); second means for transferring drive from an output shaft of said transmission (48) to forwardly and rearward projecting output shafts;

48. a first carrier (frontward 10) supported on said body forwardly of said second drive transferring means, having an input shaft (44) drivingly connected to said forwardly projecting shaft of said second drive transferring means and a pair of laterally projecting half shafts operatively connected to the wheel of a wheel unit (56);

Art Unit: 3616

49. a second carrier (rear 10) supported on said body rearward of said second drive transmitting means, having an input shaft (45 or 54) drivingly coupled to rearward projecting output shaft of said second drive transferring means, and a pair of laterally projecting half shafts (16) operatively connected to wheels of said wheel unit;

50. a third carrier (first of 12) supported on said body rearward of said second carrier, having an input shaft (56) drivingly coupled to an output shaft of said second carrier (48) and a pair of laterally projecting half shafts (18) operatively connected to wheels of a wheel unit (56); and

51. a fourth carrier (last of 12) supported on said body rearward of said third carrier, having an input shaft (32) drivingly coupled to an output shaft of said third carrier (58) and a pair of laterally projecting half shafts (20) operatively connected to wheels of a wheel unit (56).

52. Wohlfarth does not disclose a fifth wheel carrier. Clark further teaches a fifth carrier (39) supported on said body rearward of a third carrier (37 or 41) having an input shaft (55) driving coupled to an output shaft (50) of said third carrier and a pair of laterally projecting half shafts (38). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to modify Wohlfarth such that it comprised a fifth carrier in view of the teachings of Clark so as to provide free movement of all the wheels without strain, for equal driving torque, for a greater distribution of load, and greater load capacity.

53. In reference to claim 48, Wohlfarth further discloses a third drive transferring means (28) operatively interconnecting said transmission output shaft and said second means for transferring drive, selectively operable to transmit drive at a first speed, transmit drive at a second speed and transmit no drive in a neutral position (change-speed).

Response to Arguments

1. Applicant's arguments with respect to claim 1 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

2. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KAREN JANE J. AMORES whose telephone number is (571)272-6212. The examiner can normally be reached on Monday through Friday, 8:00 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Dickson can be reached on (571)-272-7742. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3616

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAREN J AMORES
Examiner
Art Unit 3616

/K. J. A./
Examiner, Art Unit 3616
/Ruth Ilan/
Primary Examiner, Art Unit 3616